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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,792	11/03/2003	Alex George Koleszar	ICYTP003X1C2	5505

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EXAMINER

PHAM, MICHAEL

ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/700,792	<b>Applicant(s)</b> KOLESZAR ET AL.	
	<b>Examiner</b> Michael D. Pham	<b>Art Unit</b> 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-17, and 20 is/are rejected.
- 7) ☒ Claim(s) 7-9, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/3/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

**Detailed Action**

1. Claims 1 - 20 have been examined.
2. Claims 1 - 20 are pending.
3. Claims 1 - 20 are rejected as detailed below.

***Priority***

***Applicants have claimed domestic priority. Accordingly, the application has been examined with an effective filing date of May 15, 1997.***

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 2 of U.S. Patent 6643634 anticipate the broader claims 1 of the present application. The difference being that claims 1 and 2 of the U.S. patent 6643634 further define what the data includes (in claim 1), and further describing the graphical depiction (in claim 2) respectively. (Narrower limitation anticipates the broader limitation.)

Claim 9 of U.S. Patent 6643634 anticipates the broader claim 11 of the present application. The difference being that in claim 9 of the U.S. Patent 6643634 further defines that the data including nucleic acid sequences from an organism's genome representing one or more open reading frames. (Narrower limitation anticipates the broader limitation.)

Claim 12 of U.S. Patent 6643634 anticipates the broader claim 13 of the present application.

The difference being that in claim 12 of the U.S. Patent 6643634 further defines the graphically display the results of said query. (Narrower limitation anticipates the broader limitation.)

Claim 17 of U.S. Patent 6643634 anticipates the broader claim 20 of the present application.

The difference being more of a description is given to the graphical depiction (in claim 17).  
(Narrower limitation anticipates the broader limitation.)

Claim 3, 4, 5, and 6 of the U.S. Patent 6643634 are dependant to claim 2. Claim 2 of the U.S. Patent 6643634 anticipates claim 1 of the present application, as stated before. Further claims 3-6 of the U.S. Patent 6643634 anticipates claims 3-6. (Narrower limitation anticipates the broader limitation.)

Claim 7 of U.S. Patent 6643634 is dependent to claim 2. Claim 2 of of the U.S. Patent 6643634 anticipates claim 1 of the present application, as stated above. Further claim 7 of the U.S. Patent 6643634 anticipates claims 7 and 9 of the present application. (Narrower limitation anticipates the broader limitation.)

Claim 8 of U.S. Patent 6643634 is dependent to claim 2. Claim 2 of the U.S. Patent 6643634 anticipates claim 1 of the present application, as stated above. Further claim 8 of the U.S. Patent 6643634 anticipates claims 10 of the present application. (Narrower limitation anticipates the broader limitation.)

Claim 10 of U.S. Patent 6643634 is dependent to claim 9. Claim 9 of of the U.S. Patent 6643634 anticipates claim 11 of the present application, as stated above. Further claim 10 of the U.S. Patent 6643634 anticipates claims 12 of the present application. (Narrower limitation anticipates the broader limitation.)

Claim 12 of U.S. Patent 6643634 anticipates claim 14 of the present application. (Narrower limitation anticipates the broader limitation.)

Claim 13 of U.S. Patent 6643634 anticipates claim 15 of the present application. (Narrower limitation anticipates the broader limitation.)

Claim 14 of U.S. Patent 6643634 anticipates claim 16 of the present application. (Narrower limitation anticipates the broader limitation.)

Claim 15 of U.S. Patent 6643634 anticipates claim 17 of the present application. (Narrower limitation anticipates the broader limitation.)

Claim 16 of U.S. Patent 6643634 anticipates claim 18 and 19 of the present application.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 20 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim is not limited to embodiments which fall within a statutory category. Specifications page 40 states that the invention maybe embodied on a carrier wave. Carrier waves are not statutory.

Claims 13-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. It appears, in claim 13, all elements would reasonably be interpreted by one of ordinary skill in light of the disclosure as software such system is software per se. All other claims are rejected for failing to resolve the deficiencies of the claims from which it depends.

Claims 13-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 13 does not appear to yield a useful result. All other claims are rejected for failing to resolve the deficiencies of the claims from which it depends.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

**Claims 1-3, 11-15, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5556749 by Mitsuhashi et. al. (hereafter Mitsuhashi).**

**Claim 1:**

1. A method implemented in a computer system for presenting biomolecular sequence data, comprising:

**retrieving biomolecular sequence data from a database in response to a user query** [Col. 4 lines 37-38, retrieve all of the relevant genes of interest. Col. 12 lines 52-57, Genbank provides a collection of nucleotide sequences as well as relevant bibliographic and biological annotation.]; and

**graphically depicting elements of the biomolecular sequence data in a user interface for said computer system** [Col. 14 lines 9-13, graphically displays all of the candidate probes and hybridization strengths with all sequences from the sequence database].



**Claim 2:**

**The method of claim 1, wherein said graphical depiction comprises a plurality of panels**  
[figure 4, plurality of panels holding different graphics such as graphs, scrollbars, titles, etc.].

**Claim 3:**

**The method of claim 2, wherein said plurality of panels are comprised within a single**  
**frame** [Figure 4, all panels are within a frame].

**Claim 11:**

**A method implemented in a computer system for presenting biomolecular sequence data,**  
**comprising:**

**retrieving biomolecular sequence data for a plurality of homologous loci from a**  
**database in response to a user query** [Col. 4 lines 37-38, retrieve all of the relevant genes of  
interest. Col. 12 lines 52-57, Genbank provides a collection of nucleotide sequences as well as  
relevant bibliographic and biological annotation. Col. 17 lines 48-50, Col. 17 lines 67 to Col. 18  
line 1, and col. 10 lines 55-60, when query for gene the system copies the locus]; and

**graphically depicting at least some of the homologous loci in a user interface for said**  
**computer system** [Figure 4, Figure 5, and col. 14 lines 63-67 to col. 15 lines 15. highest and  
most similar sequence. The high points on the MPSD show many loci in the database to which  
the candidate probe will hybridize].

**Claim 12:**

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**The method of claim 11, wherein said graphical depiction comprises a single panel [Figure 4, comprises a panel].**

**Claim 13:**

**A computer system, comprising:**

**a database including biomolecular sequence data**[Col. 4 lines 37-38, retrieve all of the relevant genes of interest. Col. 12 lines 52-57, Genbank provides a collection of nucleotide sequences as well as relevant bibliographic and biological annotation.];

**a user interface capable of receiving a query relating to the biomolecular sequence data** [Col. 17 lines 48-50, user-selected gene sequence], and

**graphically displaying the results of said query** [Figure 4, graphically displaying results].

**Claim 14:**

**The system of claim 13, wherein said graphical depiction comprises a plurality of panels** [figure 4, plurality of panels holding different graphics such as graphs, scrollbars, titles, etc.].

**Claim 15:**

**The system of claim 14, wherein said plurality of panels are comprised within a single frame** [Figure 4, all panels are within a frame].

**Claim 20:**

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A computer-readable medium containing programmed instructions arranged to graphically display biomolecular sequence data, the computer-readable medium including programmed instructions for:

**retrieving biomolecular sequence data from a computer system database in response to a user query**[Col. 4 lines 37-38, retrieve all of the relevant genes of interest. Col. 12 lines 52-57, Genbank provides a collection of nucleotide sequences as well as relevant bibliographic and biological annotation.]; and

**graphically depicting elements of the biomolecular sequence data in a user interface for the computer system**[Col. 14 lines 9-13, graphically displays all of the candidate probes and hybridization strengths with all sequences from the sequence database].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4-6 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5556749 by Mitsuhashi et. al. (hereafter Mitsuhashi) as applied to claims 1-3, 11-15, and 20 above, and further in view of U.S. Patent 6671624 by Dunlay et. al. (hereafter Dunlay).

#### **Claim 4:**

Mitsubishi does not explicitly disclose **wherein said plurality of panels provide graphical depictions representing different aspects of said biomolecular sequence data**. On the other hand, Dunlay discloses Figure 18, a plurality of panels providing graphical depictions of biomolecular data. All systems are directed towards bioinformatics. It would have been obvious to one of ordinary skill at the time the invention was made to have modified Mitsubishi to have included **wherein said plurality of panels provide graphical depictions representing different aspects of said biomolecular sequence data** based on the disclosure of Dunlay. A skilled artisan would have been motivated to do so for the purpose of analyzing and comparing information for biomolecular data.

**Claim 5:**

**The method of claim 4, wherein said biomolecular sequence data comprises gene locus data** [Col. 17 lines 48-50, Col. 17 lines 67 to Col. 18 line 1, and col. 10 lines 55-60, when query for gene the system copies the locus.].

**Claim 6:**

**The method of claim 5, wherein said plurality of panels comprises three panels.**

Mitsubishi does not explicitly disclose **wherein said plurality of panels comprises three panels**. On the other hand, Dunlay discloses Figure 18, a plurality of panels providing graphical depictions of biomolecular data. All systems are directed towards bioinformatics. It would have been obvious to one of ordinary skill at the time the invention was made to have modified Mitsubishi to have included **wherein said plurality of panels provide graphical depictions**

**representing different aspects of said biomolecular sequence data** based on the disclosure of Dunlay. A skilled artisan would have been motivated to do so for the purpose of analyzing and comparing information for biomolecular data.

**Claim 16:**

Mitsuhashi does not explicitly disclose **wherein said plurality of panels provide graphical depictions representing different aspects of said biomolecular sequence data**. On the other hand, Dunlay discloses Figure 18, a plurality of panels providing graphical depictions of biomolecular data. All systems are directed towards bioinformatics. It would have been obvious to one of ordinary skill at the time the invention was made to have modified Mitsuhashi to have included **wherein said plurality of panels provide graphical depictions representing different aspects of said biomolecular sequence data** based on the disclosure of Dunlay. A skilled artisan would have been motivated to do so for the purpose of analyzing and comparing information for biomolecular data.

**Claim 17:**

**The system of claim 16, wherein said biomolecular sequence data comprises gene locus data** [Col. 17 lines 48-50, Col. 17 lines 67 to Col. 18 line 1, and col. 10 lines 55-60, when query for gene the system copies the locus.].

*Official Notice*

**Claim 10:**

As to claim 10, the examiner takes official notice that the Java programming language was a known industry standard programming language. It would have been obvious to one of ordinary skill in the art to have included **wherein the method is implemented in the java programming language** because the advantages that java provides such as the portability across heterogeneous platforms and the object oriented programming capabilities for code reuse.

*Allowable Subject Matter*

Claims 7-9 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 (and similarly claim 18) recites three panels comprise a first panel graphically depicting at least a portion of a contig and its associated loci, a second panel graphically depicting at least a portion of the contig depicted in said first panel and annotated loci associated with the portion, and a third panel graphically depicting information indicating the number of sequencing operations conducted to determine the sequence data depicted in the second panel. The closest references the examiner was able to find within was able to find after constant searching were the two references cited above Mitsuhashi and Dunlay. The cited references do not appear to disclose the recited limitations.

Claims 8-9 are dependent upon 7.

Claims 18-19 are dependent upon 18.

*Conclusion*

The prior art made of record listed on PTO-892 and not relied, if any, upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D. Pham whose telephone number is (571)272-3924. The examiner can normally be reached on Monday - Friday 9am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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